JVC

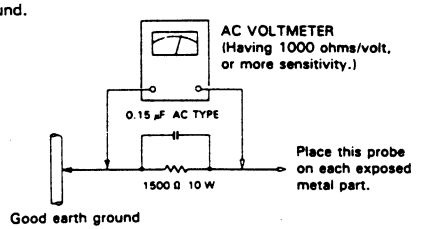
RX-50BK/LBK

MODEL

USER'S MANUAL

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).


AC VOLTMETER
(Having 1000 ohms/volt, or more sensitivity.)
0.15 μF AC TYPE
1500 Ω 10 W
Place this probe on each exposed metal part.
Good earth ground

Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

SPECIFICATIONS

AMPLIFIER SECTION

Output power : 65 watts per channel, min. RMS, both channels driven, into 8 ohms from 20 Hz to 20 kHz, with no more than 0.015% total harmonic distortion.
65 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz (DIN).
65 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.015% total harmonic distortion.

Total harmonic distortion : 0.015% at 65 watts (1 kHz 8 ohms)

Intermodulation distortion : 0.015% at 65 watts

Input sensitivity/impedance
PHONO : 2.5mV/47 k ohms
CD : 200mV/47 k ohms
TAPE 1 PLAY
TAPE 2/VIDEO
SOUND PLAY

Recording output level : 200mV

Frequency response
PHONO (RIAA equalization) : 20Hz–20kHz, ±0.5dB
CD. : 10Hz–50kHz, ± 1 dB
TAPE 1 PLAY
TAPE 2/VIDEO
SOUND PLAY

S.E.A. graphic equalizer
Center frequencies : 63Hz, 160Hz, 400Hz, 1kHz, 2.5kHz, 6.3kHz, 16 kHz
Control range : +10 dB ± 1 dB
−10 dB ± 1 dB

Signal-to-noise ratio

PHONO	: 71 dB ('66 IHF) 78 dB ('78 IHF) (Rec out)	66 dB (DIN)
CD, TAPE 1 PLAY TAPE 2/ VIDEO SOUND PLAY	: 91 dB ('66 IHF) 85 dB ('78 IHF)	67 dB (DIN)

FM TUNER SECTION

	IHF	DIN (For Europe)
Tuning range	: 87.5 MHz–108.0 MHz	87.5 MHz–108.0 MHz
Usable sensitivity:	Mono 10.8 dBf 0.95 μV/75 ohms 1.9 μV/300 ohms	—
26 dB quieting sensitivity		1.5 μV/75 ohms 3 μV/300 ohms
50 dB quieting sensitivity	: Mono 16.3 dBf (1.8 μV/75 ohms 3.6 μV/300 ohms) Stereo 38.3 dBf (22.5 μV/75 ohms 45 μV/300 ohms)	—
S/N 46 dB stereo: sensitivity	—	Stereo 23μV/75 ohms
Signal-to-noise ratio (at 98 MHz 85 dBf)	: Mono 80dB Stereo 73 dB (IHF-A)	Mono 72 dB Stereo 64 dB (weighted)
Total harmonic distortion (1 kHz)	: Mono 0.15% Stereo 0.2 %	Mono 0.1% Stereo 0.3 %
Frequency response	: 30 Hz–15 kHz, + 0.5 dB, −3 dB	
Capture ratio	: 1.5 dB	
Selectivity	: 60 dB ±400 kHz	55 dB ±300 kHz
IF response ratio : 85 dB at 98 MHz		
Stereo separation :	40 dB at 1 kHz	40 dB at 1 kHz

AM TUNER SECTION

EIA

MW

Tuning range

Area	Channel Space 9 kHz	Channel Space 10 kHz
U.S.A Canada	—	530 kHz - 1710 kHz
Continental Europe U.K.	522 kHz - 1629 kHz	—
Italy	522kHz - 1629 kHz	—
Australia	522 kHz - 1629 kHz	—
Other area	522 kHz - 1629 kHz	530 kHz - 1630 kHz

Sensitivity
Loop antenna : 300μV/m*
External antenna : 30 μV*
Signal-to-noise ratio : 50 dB* (100 mV/m)
Selectivity : 38 dB, ±10 kHz
35 dB, ± 9 kHz*
Image response ratio : 40 dB*
IF response ratio : 60 dB
Total harmonic distortion : 0.5 %* (100 mV/m)

LW (RX-501 LBK only)

Tuning range

Area	Channel Space 1 kHz
Continental Europe U.K.	144 kHz– 353 kHz
Italy	144 kHz– 290 kHz

Sensitivity
Loop antenna : 600 μV/m at 245 kHz
External antenna : 100μV at 245 kHz
Signal to noise ratio (100 mV/m) : 50 dB at 245 kHz
Selectivity : 40 dB ± 9 kHz at 245 kHz

GENERAL

Dimensions (W x H x D) : 17-3/16" x 5" x 13" (435 x 127 x 330 mm)
Weight : 15 lbs (6.8 kg)

* Measured at 1,000 kHz or 999 kHz.

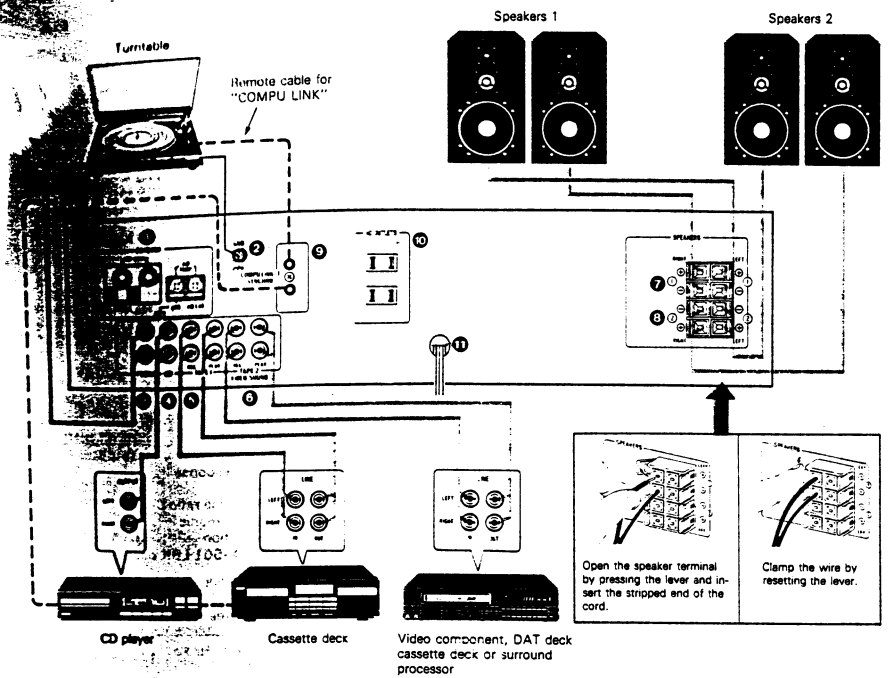
POWER SPECIFICATIONS

Area	Line Voltage & Frequency	Power Consumption
U.S.A. Canada	AC 120 V~, 60 Hz	270 w, 350 VA
Continental Europe	AC 220 V~, 50 Hz	200 w
U.K. Australia	AC 240 V~, 50 Hz	340 w
Other Area	AC 110/120/220/240 V~selectable, 50/60 Hz	200 w

Design and specifications subject to change without notice.

CONNECTION DIAGRAM

Switch the power off when connecting any cables.


Speakers 1
Speakers 2
Turntable
Remote cable for "COMPU LINK"
Open the speaker terminal by pressing the lever and insert the stripped end of the cord.
Clamp the wire by resetting the lever.
CD player
Cassette deck
Video component, DAT deck cassette deck or surround processor

❶ ANTENNA terminals
❷ GND terminal
❸ PHONO terminals
❹ CD terminals
❺ TAPE 1 terminals
❻ TAPE 2 VIDEO SOUND terminals
❼ SPEAKERS 1 terminals
❽ SPEAKERS 2 terminals
❾ COMPU LINK-1 SYNCHRO terminals
Connect JVC components provided with COMPU LINK-1 SYNCHRO terminals for the COMPU LINK control system function.
❿ AC OUTLETS (UNSWITCHED: For RX-401BK)
(SWITCHED: For RX-501BK)
⓫ Power cord

Notes:

- When connecting components, connect their left and right channels correctly. If channels are reversed, the stereo effect will be degraded.
- Connect speakers with the correct polarity: (+) to (+) and (−) to (−). Reversed polarity will degrade the stereo effect. Be careful to prevent adjacent speaker wires from touching each other.
- Use speakers with the correct impedance. The correct impedance is indicated on the rear panel of the RX-401BK/RX-501BK.
- The AC OUTLETS do not supply power when the power switch is turned off (RX-501BK only). Do not connect equipment requiring more than the outlet's rated value.
- Do not connect the remote cable when connecting the JVC cassette deck having COMPU LINK-1/SYNCHRO terminals to be the TAPE2/VIDEO SOUND terminals.
- When a JVC DAT deck having COMPU LINK-1/SYNCHRO terminals is used, be sure to connect it to the TAPE2/VIDEO SOUND terminals and also connect the remote cable.
- Connect a turntables using a moving magnetic (MM) type cartridges to the PHONO terminals.

ANTENNAS

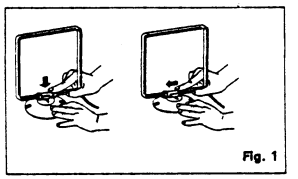


Fig. 1

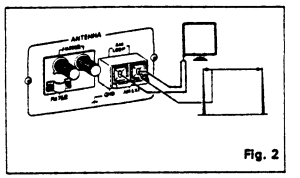


Fig. 2

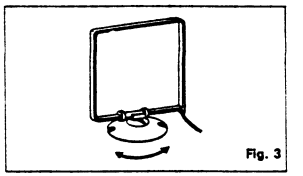


Fig. 3

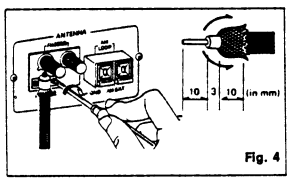


Fig. 4

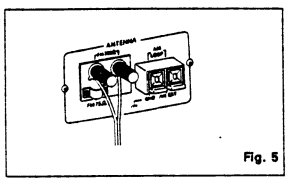


Fig. 5

AM antennas

Figure 1: How to fix the AM loop antenna
Figure 2: AM loop antenna
This antenna is for the reception of local AM broadcasts.
Figure 2: AM external antenna
If AM reception is unsatisfactory, connect an external AM antenna (single-wire antenna) to the AM ANTENNA terminal.
Figure 3: Noise and interference
Change the direction of the loop antenna, or re-install it in a better position if the reception is noisy.

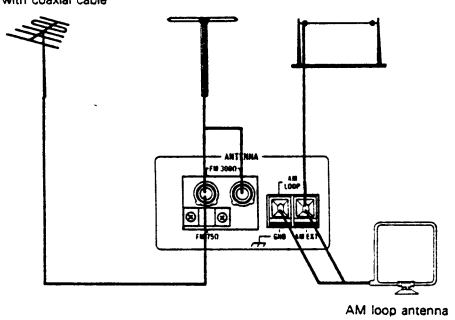
Notes:

- If the provided loop antenna is not connected or an uninsulated antenna wire touches the rear panel, it will be impossible to receive AM broadcasts.
- When installing an external AM antenna, leave the AM loop antenna connected.

FM antennas

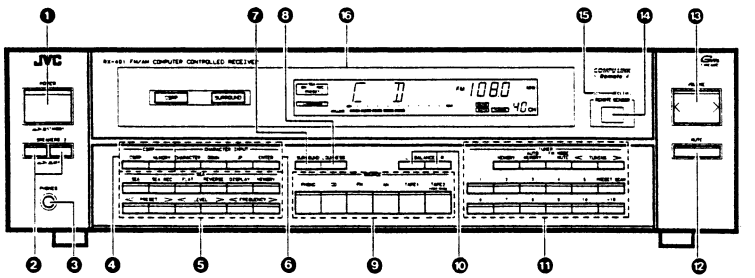
Figure 4: 75-ohm FM antenna with coaxial
Loosen the screws on the bracket and insert the cable through the ring from below. Connect the stripped core to the upper terminal then tighten the ring. The ring is the antenna ground.
Figure 5: FM Feeder antenna
Connect to the 300-ohm terminal. Make sure the feeder antenna wires do not touch any other terminals.

Antenna Connections

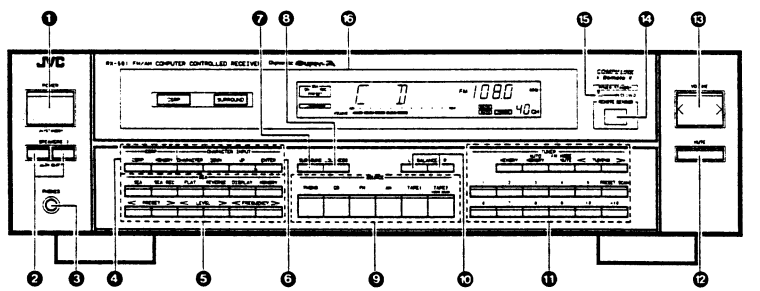


FRONT PANEL

RX-401BK



RX-501BK



❶ POWER (ON/STANDBY)
Turns the power ON or activates the STANDBY mode.

STANDBY mode:
Preset data is retained in memory while the power cord is plugged into an AC outlet. If a power failure occurs or the cord is unplugged, data is retained for two or three days before memory is cleared.

Note:
A small amount of power (2 watts) is consumed in the STANDBY mode. To switch the power off completely, unplug the power cord.

❷ SPEAKERS 1, 2
Turns speakers 1 and 2 ON or OFF.

❸ PHONES
Plug headphones into this jack. If you want to hear from the headphones alone, turn OFF speakers 1 and 2.

❹ CSRP
COMPU LINK SOURCE RELATED PRESET SYSTEM feature (CSRP)
CSRP: Turns the CSRP feature ON or OFF.
MEMORY: Stores CSRP data in memory.

❺ SEA
Use the following keys for the S.E.A. Graphic Equalizer:
SEA: Turns the S.E.A. ON or OFF.
SEA REC: Turns S.E.A. recording ON or OFF.
FLAT: Flattens S.E.A. characteristics.
REVERSE: Reverses polarity of the S.E.A. characteristics.
DISPLAY: Displays S.E.A. patterns on the screen.
MEMORY: Stores an S.E.A. pattern in memory.
PRESET <,>: Calls an S.E.A. preset pattern.
LEVEL <,>: Set an S.E.A. level.
FREQUENCY <,>: Calls a frequency band to correct.

❻ CHARACTER INPUT
Use the following keys to assign titles or other data to the S.E.A. patterns or to TUNER channels you have preset:
CHARACTER: Sets the CHARACTER INPUT mode.
DOWN, UP: Press to select characters (letters, numerals, and symbols).
ENTER: Store created titles in memory.

❼ SURROUND
Turns the surround sound effect ON or OFF.

❽ LOUDNESS
Turns LOUDNESS ON or OFF. For use when a more powerful bass is desired with low volume.

❾ SOURCE
Use the following keys to select sources:
PHONO: Press to listen to records.
CD: Press to listen to CDs.
FM: Press to listen to FM broadcasts.
AM: Press to listen to AM broadcasts.
TAPE 1: Press to operate the tape deck connected to the TAPE1 terminals.
TAPE 2/VIDEO SOUND: Press to operate the tape deck or video equipment connected to the TAPE2/VIDEO SOUND terminals. (alternates between ON and OFF)

❿ BALANCE L, R
Adjusts the volume balance between the left and right speakers.

⓫ TUNER
Use the following keys to listen to AM or FM broadcasts:
MEMORY: Stores an AM or FM frequency (station) on a preset channel.
AUTO MEMORY: Stores an AM or FM frequency on a preset channel using the AUTO MEMORY feature.
FM MODE/MUTE: Selects FM reception modes.
TUNING <,>: Tunes in an AM or FM frequency.
1-10, +10 (Tuner numeric keys): Press to select preset channels.
PRESET SCAN: Press to scan preset channels in sequence.

⓬ MUTE
Turns sound ON or OFF temporarily.

⓭ VOLUME <, >
Adjusts the volume of sound from the speakers or headphones.

⓮ REMOTE SENSOR
Receives signals from the remote control unit.

⓯ RECEIVED indicator (RX-401BK)
Lights when signals are received from the remote control unit.
RECEIVED and POWER STANDBY indicator (RX-501BK)
Lights when signals are received from the remote control unit or when the machine is in the STANDBY mode.

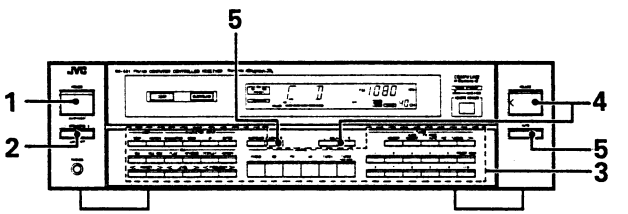
⓰ Display and indicator
Shows the operating status and the connected COMPU LINK equipment.

OPERATION

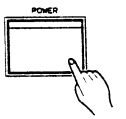
— Before Operating —

Before plugging the power cord into an AC outlet, check to be sure the individual components are connected correctly.

■Basic operating procedures:

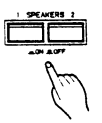


1. Turn the POWER switch to ON.



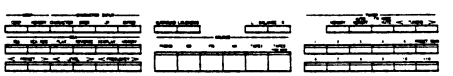
Note:
If a malfunction occurs when the power is ON, unplug the power cord and then plug it in again.

2. Select a speaker system by pressing one of the SPEAKERS keys.

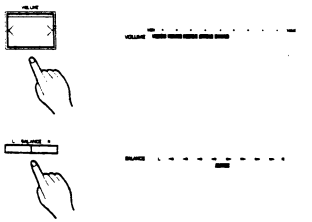


Note:
If speakers are not connected to both SPEAKERS 1 and 2 terminals, do not turn ON both speaker systems as that would suppress sound output.

3. Operate these keys, as needed, by following the directions given further on.



4. Adjust the VOLUME and BALANCE keys to your taste.



Note:
These keys vary their settings while they are being pressed. The display normally shows VOLUME. It will change to BALANCE for about 5 seconds when the BALANCE keys are pressed.

5. Press the LOUDNESS and MUTE keys as needed.

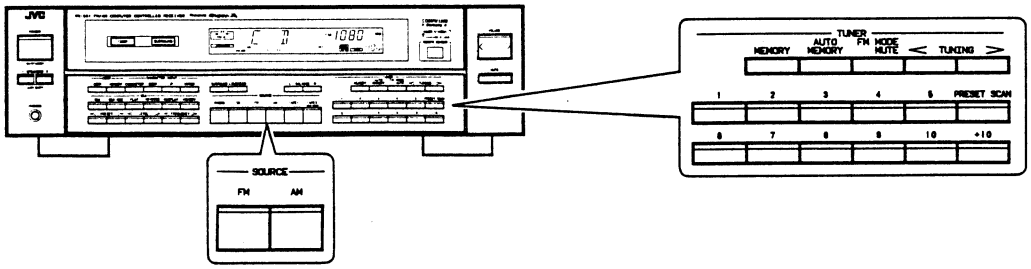
- Press to obtain powerful bass with a low sound volume.

- Press to temporarily cancel sound output.

Note:
The MUTE key is reset when the VOLUME or BALANCE keys are pressed.

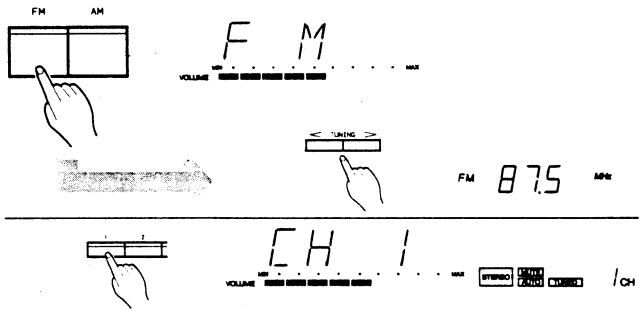
1-8(No.20077)

■Listening to AM or FM Broadcasts



Press the AM or FM key and the TUNING keys to select a station, or press numeric keys to select a preset channel. (See "Presetting Stations")

<If you select FM.>



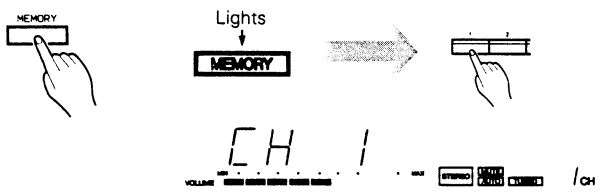
- The TUNED indicator will light when a station is tuned in correctly. Adjust the antenna if the indicator does not light.
- While tuning in an FM station, press the MODE/MUTE key to light the MUTE/AUTO indicator. This cuts out interstation noise while tuning. The STEREO indicator will light when an FM stereo station is tuned in correctly. If the FM stereo station is weak and noisy, press the MODE/MUTE key again to turn off the MUTE/AUTO indicator to improve reception (broadcast becomes monaural).

Note:
To select a station with the TUNING keys, press the FM or AM key first. Each time the TUNING keys are pressed, the frequency is varied in steps of 10 kHz for AM and 100 kHz for FM. The setting will vary continuously while the keys are pressed and held. Auto-tuning starts when the keys are released and stops when a station is tuned. To halt auto-tuning, press a TUNING key.

— Presetting Stations —

You can preset a total of 40 AM and FM stations (CH1 through CH40).

1. Tune in the desired station with the TUNING keys.
2. Press the MEMORY key to light its indicator. Enter the channel number with numeric keys while the indicator is on (for about 5 seconds).



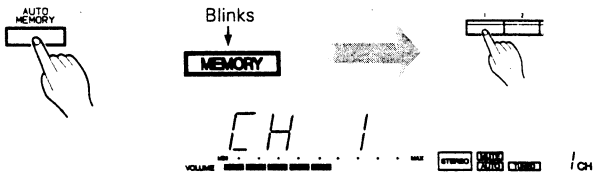
Note:
If the indicator turns off before you enter the channel number, press the MEMORY key again.

3. Repeat this procedure to preset other channels.

Auto-memory

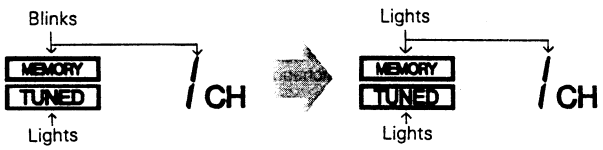
The auto-memory feature scans frequencies upward and presets stations as they are tuned, in ascending channel number order.

1. Using the TUNING keys, select the frequency from which you want auto-memory to start (the lower-limit frequency).
2. Press the AUTO MEMORY key to blink its indicator. Enter the starting channel number with the numeric keys while the indicator is blinking (about 5 seconds).



Note:
If the indicator stops blinking before you enter the channel number, press the AUTO MEMORY key again.

3. The auto-memory feature starts scanning frequencies upward. The TUNED indicator will light when a station is tuned, with the channel number blinking (for about 5 seconds). The presetting is complete when the blinking MEMORY indicator and channel number become continuously lit. This continues until the upper-limit frequency is reached or all 40 channels are filled.



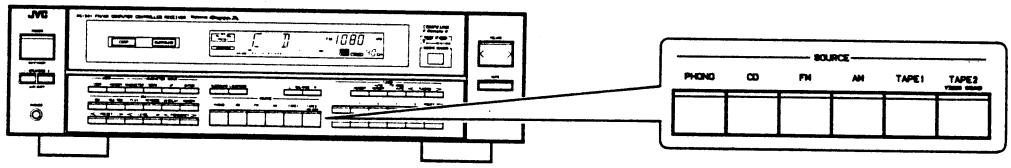
Note:
If you do not want to preset a station, resume scanning by pressing the AUTO MEMORY key while the channel number is blinking. To halt the auto-memory feature, press any TUNER key other than the AUTO MEMORY key.

Using Numeric Keys
To indicate numbers 1 through 10, simply press the appropriate keys. To indicate numbers over 10, press the appropriate combination of keys.
Examples:
To indicate 17, press "+10", then "7".
To indicate 20, press "+10", then "10".
To indicate 26, press "+10" twice, then "6".
To indicate 40, press "+10" three times, then "10".

PRESET SCAN

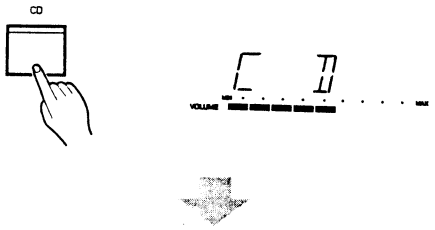
The PRESET SCAN key is convenient for locating desired channels. When this key is pressed, the preset channels are scanned upward in sequence. Each channel is received for about 4 seconds while the corresponding channel number blinks. When the desired channel is located, press the PRESET SCAN key again to stop scanning. Scanning ends when one cycle of 40 channels is completed. The receiver returns to the station tuned in prior to the start of scanning.

■Playing Back Sources (PHONO, CD, TAPE1, TAPE2/VIDEO SOUND)



Press the SOURCE key for the desired source, and operate the corresponding equipment.

<If you select CD>



CD player can be operated.

- Pressing the TAPE2/VIDEO SOUND key will not change the display source indication, but the TAPE2 MONITOR lights. To play another source, press the TAPE2/VIDEO SOUND key again to turn off the indicator.

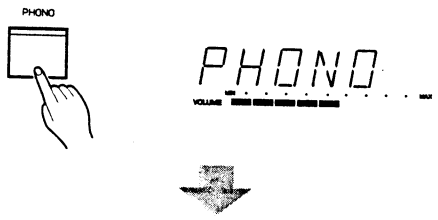
Note:
To operate other source equipment, refer to the appropriate instructions.

■Recording

For recording, use the SOURCE keys as in "Playing Back Sources".

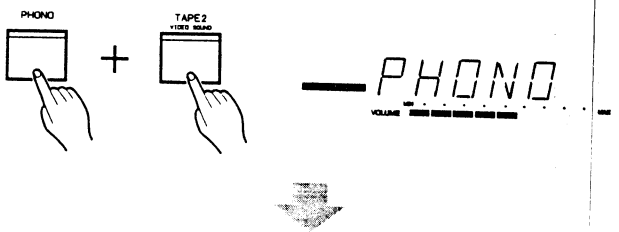
Press the SOURCE key for the desired source, and operate the corresponding source equipment and tape deck.

<If you select PHONO.>



Turntable and tape deck can be operated.

To monitor the recording by a three-head tape deck, connect the three-head tape deck to the TAPE2/VIDEO SOUND terminals beforehand. Press the appropriate SOURCE key and the TAPE2/VIDEO SOUND key, and operate the source equipment and three-head tape deck.



Turntable and three-head tape deck can be operated.

Note:
Set the recording level from the tape deck. It can not be set with the VOL control of this machine.

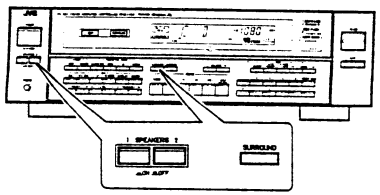
— Dubbing Tapes —

Connect one tape deck to the TAPE1 terminals, the other tape deck to the TAPE2/VIDEO SOUND terminals.

<To record from TAPE1 to TAPE2/VIDEO SOUND>
1. Press TAPE1.
2. Play back the TAPE1 deck and record with the TAPE2/VIDEO SOUND deck.

<To record from TAPE2/VIDEO SOUND to TAPE1>
1. Press the TAPE2/VIDEO SOUND key and a SOURCE key other than TAPE1.
2. Play back the TAPE2/VIDEO SOUND deck and record with the TAPE1 deck.

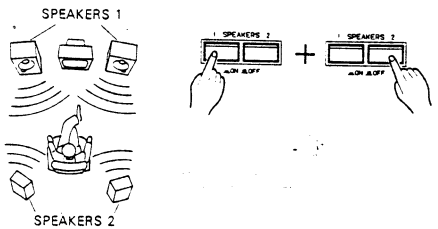
■Playing Back with a Surround-sound Effect.



Playing back a stereo source with the SURROUND key ON will produce a surrounding sound effect.

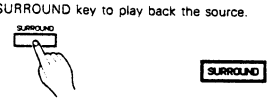
1. Connect speaker systems to the SPEAKERS 1 and 2 terminals and turn ON the SPEAKERS keys, 1 and 2.

<Speaker layout example>



Note:
A single speaker system can produce a surrounding sound effect by itself, but the use of two speaker systems is recommended for a more ideal surrounding sound effect.
If a speaker system with a low-rated input is connected to SPEAKERS2, avoid using it independent of SPEAKERS1, and pay attention to its VOLUME control during surrounding sound playback.

2. Press the SURROUND key to play back the source.

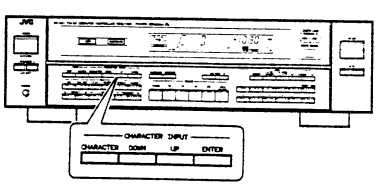


Stereo source plays back.

Note:
The surround sound is recorded as a normal stereo sound even if it is recorded with the SURROUND key ON. Monaural sources cannot be played back with the surround sound effect.

■Entering Characters

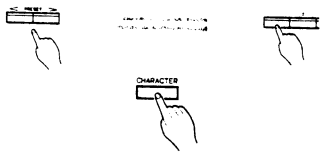
A four-character title or station name can be assigned to each S.E.A. preset pattern (SEA A to E) or TUNER preset channel (CH 1 to 20).



1. Specify a S.E.A. manual preset pattern (SEA A through E using the keys PRESET <and>), or a TUNER preset channel (using the numeric keys). Press the CHARACTER key.

<To specify a S.E.A. pattern>
Use the S.E.A. PRESET keys, <and>.

<To specify a Tuner Preset Channel>
Use the numeric keys.



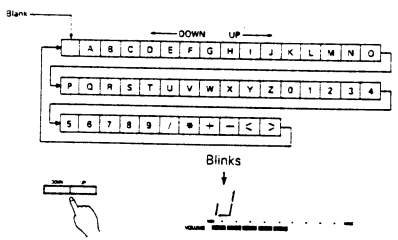
Blinks

The cursor at the left blinks. If a character has already been entered, the character blinks.

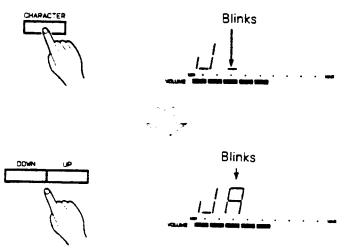
Note:
For details on S.E.A., see "Using the S.E.A. Graphic Equalizer."
When a preset S.E.A. pattern has been called, press the CHARACTER key while the pattern is displayed (about 3 seconds). If the display is cleared before you press the CHARACTER key, press either PRESET key.

2. Select the appropriate characters with the UP and DOWN keys.

Alphanumeric character order.



3. Press the CHARACTER key to move to the next position. Repeat steps 2 and 3 to enter up to 4 characters.



- To alter the characters, move the blinking cursor to the desired character for correction using the CHARACTER key.

4. When the entry is complete, press the ENTER key to store it in memory.

USING THE S.E.A. GRAPHIC EQUALIZER

The S.E.A. Graphic Equalizer breaks down the audible frequency range into seven bands. Each band of tones can then be adjusted as desired by the listener (±10dB in steps of 2 dB on the basis of 0dB). You can customize the sound to your taste or ideally correct subtle frequencies to suit the acoustic characteristics of your listening room or conditions of audio equipment.

Frequency band responses

63 Hz: Raise to emphasize the very low base response of organs, drums, and contrabass. When used for emphasis, it produces stable and solid sound; when de-emphasized, eliminates unclear response at low frequencies.

160 Hz: Empahsize to obtain a more expanded low sound. De-emphasize to eliminate unclear sound caused by large or nearly empty listening rooms.

400 Hz: This frequency range is the base on which music is constructed. Emphasize to put real punch in your music.

1 kHz: Most effective in emphasizing or de-emphasizing the human voice. Emphasize to cause the vocalist to be brought to the foreground, or de-emphasized to fade into the background.

2.5 kHz: The human hearing is most sensitive to this frequency. If the music sounds hard or metallic, de-emphasize it.

6.3 kHz: Boost to add clarity to winds and strings. This frequency band varies the tonal expression, influencing the subtleties of the music.

16 kHz: Boosting this frequency range suitably adds to the delicacy of highs, with cymbals and triangles resounding in a more ear-pleasing manner, and provides a feeling of extension. This frequency band can also be used to compensate for cartridge response since most moving-magnet cartridges have resonance peaks in the frequency range from 10 kHz to 20 kHz.

S.E.A. preset patterns

A total of 10 preset patterns can be used: 5 programmed preset patterns, and 5 manual patterns which you create (SEA A through E).

— Program pattern features —

These five S.E.A. patterns were preset at the factory to offer suggested settings for various types of audio programs. Each preset pattern is shown below. After recalling these patterns, you can further change each frequency band to suit yourself. However, since they are representative patterns, the original, stored pattern will be unchanged.

HEAVY:
Used for music with a heavy beat, such as rock music. Low frequencies are emphasized to produce a deeper, more powerful sound. Higher frequencies are also emphasized to enhance and bring clarity to the highs, including the percussive notes.

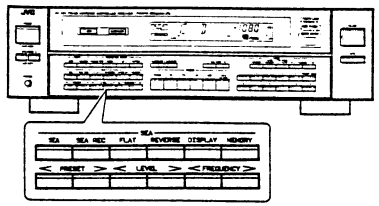
CLEAR:
For crisp, clear sound with transparent highs. The low and middle frequencies that tend to be unclear are de-emphasized, and the middle and high frequencies that strengthen the vocal component of the music are emphasized.

SOFT:
For background music. The very low frequencies, which need boosting at low volume levels, are mephasized, and the stimulating effect of higher frequencies is diminished by de-emphasizing high frequencies.

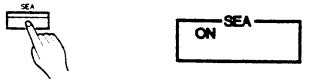
MOVIE:
For TV, VCR, and videodisc sound. The low and high frequencies, which are usually of insufficient strength in the sound of these sources, are empahsized to produce a balanced, deeper sound. Also, the excessive brightness that is characteristic of these sources' sound is cut back by de-emphasizing the middle frequency band.

VOCAL:
For music that is chiefly vocal, or speech. The middle frequencies, which carry the human voice, are emphasized, while surrounding frequencies are reduced. To accent the higher vocal notes, the highest frequencies are also boosted.

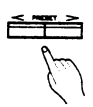
S.E.A. Operation



1. Press the SEA key.



2. Call a preset pattern with the PRESET keys. (Bypass this operation if not using a preset pattern.)

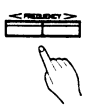


The PRESET indicator lights when a preset pattern has been called.

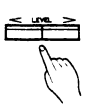
Order
< PRESET >
"SEA" – [SEA-A] – [SEA-B] – [SEA-C] – [SEA-D] –
[SEA-E] – [HEAVY] – [CLEAR] –
[SOFT] – [MOVIE] – [VOCAL] –

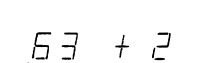
3. Press the FREQUENCY keys to call the desired frequency, and correct it with the LEVEL keys. (Bypass this operation if you are not changing the preset pattern called in step 2.)

Repeat this operation for each additional frequency desired.



Order
< FREQUENCY >
[63Hz] – [160Hz] – [400Hz] – [1kHz] –
[2.5kHz] – [6.3kHz] – [16kHz] –



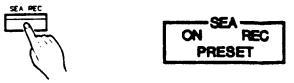


Order
< LEVEL >
[-10dB] – [-8dB] – [-6dB] – [-4dB] – [-2dB] – [0dB] –
[+2dB] – [+4dB] – [+6dB] – [+8dB] – [+10dB]

Note:
When a frequency has been called, press the LEVEL keys while the frequency is displayed (about 3 seconds). If the display is cleared before you press the LEVEL keys, it can be recalled by pressing either FREQUENCY key.

4. Press the SEA REC, FLAT, REVERSE, and DISPLAY keys as needed.

- Press the SEA REC key to record the sound corrected by S.E.A. on the tape deck connected to the TAPE1 terminals.

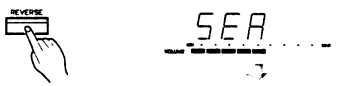


S.E.A. recording is not available with the tape deck connected to the TAPE2/VIDEO SOUND terminals. The SEA REC key is not functional when the SEA key is OFF, or when TAPE1 is the source.

- Press the FLAT key to flatten the S.E.A. characteristics.

Pressing the FLAT key while a pattern is yet to be preset will clear it. Be careful not to press the FLAT key inadvertently.

- Press the REVERSE key to reverse the polarity of S.E.A. characteristics. Press again to return to the original polarity.



The S.E.A. pattern is displayed in ascending frequency after this display.

Pressing the REVERSE key while a frequency is displayed reverse its polarity, but the display stops and return to the original source indication.

- Press the DISPLAY key to display the current S.E.A. pattern in ascending frequency.

The S.E.A. pattern is displayed in ascending frequency order after this display (for a preset pattern, its title).

To stop the display, press DISPLAY again.

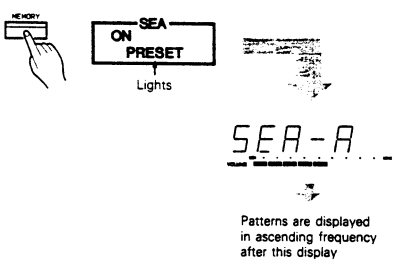
— Presetting Manual Patterns —

Up to 5 of the S.E.A. patterns (SEA A through E) can be preset.

1. Create an S.E.A. pattern to preset as instructed in "Operation".
2. Press MEMORY key to blink its indicator. Call one of the patterns (SEA A through E) by pressing the PRESET keys while the indicator is blinking (about 5 seconds).

Note:
Press the MEMORY key again if the indicator stops blinking before you press the PRESET keys.

3. Press the MEMORY key again while the indicator is blinking (about 5 seconds). The presetting is complete when the blinking MEMORY indicator becomes continuously lit. The preset pattern displays in ascending frequency.



Patterns are displayed in ascending frequency after this display

Preset Pattern Frequency Responses (Unit: dB)

Frequency band / Preset pattern	63Hz	160Hz	400Hz	1kHz	2.5kHz	6.3kHz	16kHz
HEAVY	+10	+2	−2	0	0	+2	+4
CLEAR	+4	−4	0	+4	+2	+4	+6
SOFT	+2	0	0	0	0	−2	−6
MOVIE	+6	+2	0	0	−2	0	+2
VOCAL	−2	−2	+2	+4	+2	0	+2
SEA-A							
SEA-B							
SEA-C							
SEA-D							
SEA-E							

Note: To assign titles to the preset patterns, see "Entering Characters".

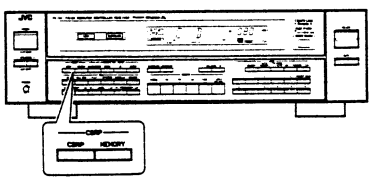
RUNNING THE CSRP (COMPU LINK SOURCE RELATED PRESET SYSTEM) FEATURE.

CSRP is the state-of-the-art electronic feature that presets volume, balance, and other control settings. This was previously done manually each time a different source was played back. This feature lets you invoke preset control settings by simply pressing the SOURCE keys without repeating many settings each time sources are changed.

The following controls can be preset on each SOURCE key (except TAPE2/VIDEO SOUND):

- •VOLUME
- •BALANCE
- •SEA ON/OFF
- •S.E.A. preset pattern
- •LOUDNESS ON/OFF
- •SURROUND ON/OFF

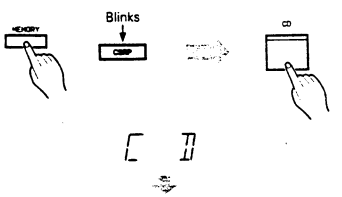
Operation



- Before proceding, set the preset state.

1. Press the MEMORY key to blink its indicator. Press the SOURCE key for the source to be preset (PHONO, CD, FM, AM, or TAPE1) while the indicator is blinking (about 5 seconds).

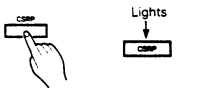
Repeat this operation for each additional source to be preset.



When the presetting is complete, the display will show preset data in the following order with the indicator blinking rapidly:
VOLUME, LOUDNESS ON/OFF, SURROUND ON/OFF→BALANCE→SEA ON/OFF→S.E.A. preset pattern.

Note:
Press the MEMORY key again if the indicator stops blinking before you press a SOURCE key.
Sources can be preset regardless of whether the CSRP key is ON or OFF, but when a source is to be preset with the CSRP key OFF, do not turn it ON until the presetting is complete. If the CSRP key were turned ON before the presetting is complete, the current data settings would be recalled to override the presetting in progress.
Even with the SEA key ON, the SEA PRESET indicator will blink when the MEMORY key is pressed if an S.E.A. preset pattern has not been previously selected. In this case, select an S.E.A. preset pattern and retry this operation.
Sources cannot be preset on the TAPE2/VIDEO SOUND key.

2. With the CSRP key ON, data settings on each corresponding SOUF key recall preset by selecting the source.



- When the CSRP key is turned ON or when the power is switched on v the CSRP key ON, the display will show the data settings on the curre selected SOURCE key in sequence with the indicator blinking rapidly. blinking indicator changes to a continuously lit state when the displa complete. Subsequently, a similar display occurs each time an additic source is selected.

Note:
Though data settings as recalled can be changed with control keys as us preset data cannot be altered. To alter preset data, perform the operat described in 1.

COMPU LINK REMOTE CONTROL SYSTEM

JVC's exclusive "COMPU LINK" remote control system connects equipment with JVC COMPU LINK-1/SYNCHRO terminals to the remote control system. The equipment can be controlled from the remote control unit, or other functions (such as automatic source selection and synchronized recording) can be used.

■Equipment remote control

JVC Compu Link equipment functions that can be controlled remotely include:

CD player : PLAY, STOP, AUTO SEARCH, TRACK NO., SELECT
CD auto-changer : PLAY MODE (CONTINUE, PROGRAM, MAGAZINE PROGRAM), DISC NO. SELECT, TRACK NO. SELECT
Cassette deck : PLAY, STOP, MUSIC SCAN, DIRECTION, FAST FORWARD, REWIND, PAUSE, RECORD
DAT deck : PLAY, STOP, AUTO SEARCH, PROGRAM NO. SELECT, FAST FORWARD, REWIND, PAUSE, RECORD
Turntable : START, STOP

In addition, JVC's audio-visual equipment (such as VCRs, TVs, and surround processors) can also be controlled remotely. For further details, see the remote control unit description in this manual.

■Automatic source selection

Pressing SOURCE keys will automatically put the corresponding source equipment into the PLAY mode. When the PLAY key on source equipment is pressed, the corresponding SOURCE key is automatically set to that source. Other source equipment shuts down about 5 seconds later.

Note:
Automatic source selection does not work on the DAT deck connected to the TAPE2/VIDEO SOUND terminals.

■Synchronized recording

Synchronized recording permits a tape deck to start recording automatically in synchronism with a CD player or turntable. Set the tape deck in the REC/PAUSE mode and press the PLAY key on the CD player or turntable. The tape deck will enter the recording mode automatically, starting synchronized recording.
Synchronized recording stops automatically after the CD player or turntable has stopped and the tape deck has entered the REC/MUTE mode for about 4 seconds.

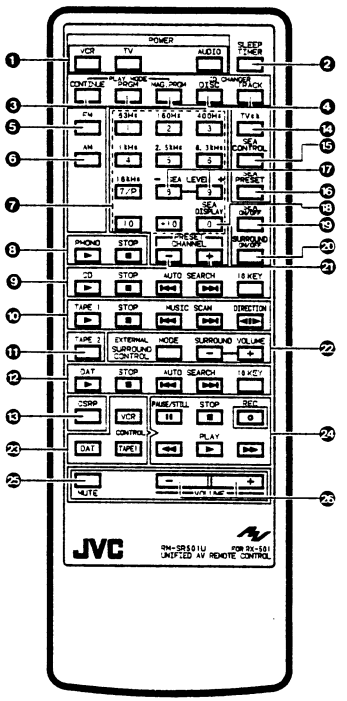
Notes:
- To set the REC/PAUSE mode, press the REC and the PAUSE key at the same time. Synchronized recording is disabled if the PAUSE key is pressed after the REC and the PLAY key are pressed simultaneously. For details, refer to the tape deck manual.
- If the power for any connected equipment is shut off during synchronized recording, the system will not operate properly. In this cast, you must start all over again.
- During synchronized recording the SOURCE key will lock in either the CD or PHONO position. This is to prevent you from accidentally stopping the recording or changing to any other source. To change to another source you must first stop synchronized recording. When using synchronized recording with a DAT deck, the SOURCE key is not locked.
- You cannot switch the CSRP ON and OFF during synchronized recording.
- If you connect a cassette deck to the TAPE2/VIDEO SOUND terminals, disconnect the remote control cable and do not use synchronized recording.
- If you program track numbers on a CD player or CD auto-changer and use synchronized recording, a blank space about 4 seconds long will be left between recordings. This permits music scanning.

Display examples
When using the remote control unit to operarte equipment which has the COMPU LINK-1/SYNCHRO terminals, the name of the source and the operating mode will appear on the display.

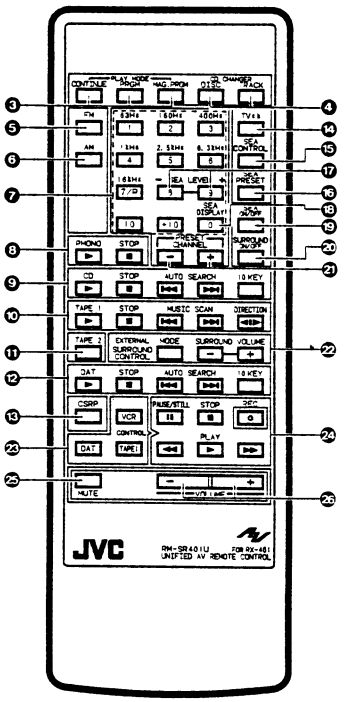
Symbol	▶	❚❚	■	◀◀	▶▶	⏮	⏭
Indication							
"REC/PAUSE" mode	DAT TAPE REC						
During "recording"	DAT TAPE REC						

REMOTE CONTROL UNIT (RM-SR401U/RM-SR501U)

RM-SR501U



RM-SR401U



❶ **POWER (RM-SR501U only)**
AUDIO: Press to change the power for the RX-501BK to ON or STANDBY.
TV: Press to change the TV power to ON or OFF.
VCR: Press to change the VCR power to ON or OFF.
❷ **SLEEP TIMER (RM-SR501U only)**
Use this control when you want to set the SLEEP TIMER.
❸ **PLAY MODE**
Use these keys when operating a CD auto-changer:
CONTINUE: Play CDs in sequence.
PRGM: Play a CD in a programmed sequence.
MAG. PRGM: Play a magazine program.
❹ **CD CHANGER**
DISC: Press to set numeric keys in the CD autochanger disc number mode.
TRACK: Press to set numeric keys in the CD autochanger track number mode.
❺ **FM**
Press to listen to FM broadcasts.
❻ **AM**
Press to listen to AM broadcasts.

❼ **Numeric keys (0, 1 through 10, +10)**
Use to select the following numbers:
* FM/AM preset channel numbers
* CD auto-changer disc and track numbers
* CD player track numbers
* DAT deck tune numbers
* TV channel numbers

63 Hz — 16 kHz: Frequency is displayed when S.E.A. is used.
❽ **PHONO**
PHONO (▶): Use to change the source to PHONO and start playing a record.
STOP (■): Use to stop playing a record.
❾ **CD**
CD (▶): Use to change the source to CD and start playing a CD.
STOP (■): Use to stop playing a CD.
AUTO SEARCH:
(⏮): Use to go to the beginning of the previous track.
(⏭): Use to go to the beginning of the next track.
10 KEY: Press to set numeric keys in the CD player track number mode.

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⑩ **TAPE1**
TAPE1 (▷): Use to change the source to TAPE1 and begin playing back a cassette deck tape.
STOP (□): Use to stop the cassette deck.
MUSIC SCAN:
(◁◁): Use to go to the beginning of the previous tune.
(▷▷): Use to go to the beginning of the next tune.
DIRECTION (⇄): Use to change the director of the tape.

⑪ **TAPE2**
Press when you want to play back or monitor the recording on a tape deck connected to the TAPE2/VIDEO SOUND terminals, or when you want to play back a tape on video equipment. Pressing this key turns the equipment ON or OFF.

⑫ **DAT**
DAT (▷): Use to play back a DAT deck tape.
STOP (□): Use to stop the DAT deck.
AUTO SEARCH:
(◁◁): Use to go to the beginning of the previous tune.
(▷▷): Use to go to the beginning of the next tune.
10 KEY: Press to set numeric keys in the DAT deck tune number mode.

⑬ **CSRP**
Turns CSRP ON or OFF.

⑭ **TV ch**
Use the numeric keys to select TV channel modes.

⑮ **SEA CONTROL**
Press to operate S.E.A. Use the numeric keys to control the S.E.A. operation modes.

⑯ **SEA PRESET**
Use to select S.E.A. preset patterns.

⑰ **SEA LEVEL (− , +)**
Use to set the S.E.A. frequency level.

⑱ **SEA DISPLAY**
Use to display the S.E.A. setting.

⑲ **SEA ON/OFF**
Turns the S.E.A. feature ON or OFF.

⑳ **SURROUND ON/OFF**
Turns the SURROUND effect ON or OFF.

㉑ **PRESET CHANNEL (▽ , △)**
Increments (+) or decrements (−) the AM/FM preset channel or the TV channel numbers.

㉒ **EXTERNAL SURROUND CONTROL**
Operates the surround processor (optional).
MODE: Press to select the SURROUND mode.
SURROUND VOLUME: Adjusts the volume of the surround processor.

㉓ **CONTROL**
VCR: Press to run a VCR.
DAT: Press to run a DAT deck.
TAPE1: Press to run the TAPE1 cassette deck.

㉔ **VCR/DAT/TAPE1 controls**
These keys operate the equipment selected with the CONTROL key.
PAUSE/STILL (□): Stops play back, sound recording, and video recording temporarily. Press the PLAY key to release this control.
STOP (□): Stops the operation selected.
REC (●): Starts sound and video recording when pressed together with the PLAY key. When pressed together with the PAUSE/STILL key, sound and video recording are placed in standby.
(◁◁): Fast rewinds the tape in a cassette deck to the left. Rewinds a DAT deck and VCR tapes.
PLAY (▷): Plays the tape.
(▷▷): Fast winds the tape in a cassette deck to the right. Fast forwards DAT deck and VCR tapes.

㉕ **MUTE**
Press ON to turn off the sound from the speakers or headphones temporarily. Press OFF to hear the sound again.

㉖ **VOLUME (− , +)**
Use to adjust the volume of sound from the speakers or headphones.

■Inserting Batteries in the Remote Control Unit

The RM-SR401U and RM-SR501U remote control units require two size AA (1.5 V) batteries.

Figure 1:
Remove the rear cover of the remote control unit.

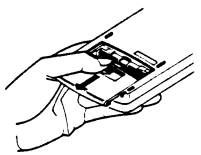


Figure 2:
Insert the batteries.

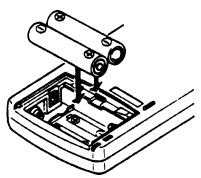
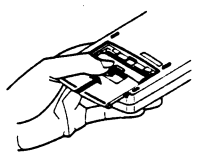


Figure 3:
Re-attach the rear cover in the original position.



Important Notes About Batteries
- If the range of the remote control unit seems shortened, the batteries may be old. Try inserting new batteries.
- Observe the polarity of batteries when loading them.
- Do not use one new battery with one old battery.
- Be sure to use batteries of the same brand. Batteries may vary in voltage even though they look alike.
- If the remote control unit will not be used for a long time, remove the batteries.

CAUTION:
Do not heat batteries or attempt to dispose of them by burning.

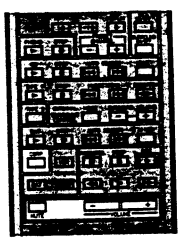
OPERATION WITH THE REMOTE CONTROL UNIT (RM-SR401U/RM-SR501U)

- The RM-SR401U and the RM-SR501U remote control units control the RX-401BK/RX-501BK and JVC's audio visual gear from a remote place via the Compu Link Remote Control System.
- Direct the transmitter window of the remote control unit at target equipment within a distance of 7 meters. Take care to avoid obstacles between the transmitter and the target. Press keys slowly and positively, making sure the desired functions result.
- The key markings on the transitter may not match those on the equipment. Check the markings.
  The remote control units cannot control equipment functions they do not support. Older equipment may not be receptive to their input.
- Check for connection of the COMPU LINK-1/SYNCHRO terminals on the remote equipment by a remote cable.
- The operation of each key on the remote control unit is clearly displayed on the RX-401BK or RX-501BK.
  For specific procedures, refer to the instructions for the particular equipment.
- Switch on the power to all the equipment required before starting operation. The POWER key on the RM-SR501U can switch on the power to the AUDIO (RX-501BK), TV, and VCR.

■Operating the RX-401BK/RX-501BK and other Source Equipment

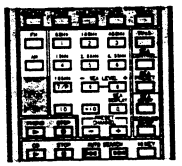
- Aim the signals at the REMOTE SENSOR on the RX-401BK and RX-501BK.

Using the VOLUME, MUTE, CSRP, and SURROUND ON/OFF Keys.



- VOLUME −, +
  Adjust the volume by processing the minus key to lower the sound and the plus key to raise the round.
- MUTE
  Press ON to turn off the sound temporarily. Press again to OFF, or operate the VOLUME key, to turn on the sound again.
- CSRP
  Press to operate CSRP. Press again to turn CSRP off.
- SURROUND ON/OFF
  Press to get surround playback. Press again to turn it off.

Listening to FM/AM Broadcasts

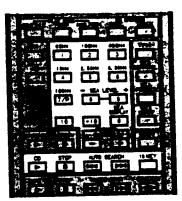


1. Press the FM or AM key to select the source.
2. Use the numeric keys and PRESET CHANNEL keys to select the preset channel mode on the TUNER. The numeric keys are used in the same way as the TUNER numeric keys on the equipment. For reference, see "Listening to AM or FM Broadcasts" under the section OPERATION at the beginning of this instructions.

Listening to Records

1. Press the PHONO ▷ key to start playing a record.
2. Press the STOP □ key to stop the record.

Listening to CDs



1. Press the CD ▷ key to start playing a CD.
2. Press the STOP □ key to stop the CD.
   Use the AUTO SEARCH ◁◁ and ▷▷ keys to go to the beginning of other channels. Press the 10 KEY key to set numeric keys in the CD track number mode. The operation of these keys may vary according to the CD player you use, so be sure to refer to the CD player instructions.

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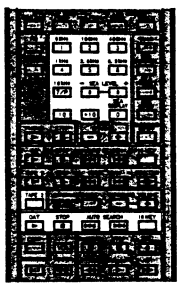
Using a Cassette Deck

1. Press the TAPE1 ▶ key to start the cassette deck.
2. Press the STOP ■ key to stop the cassette deck. Use the MUSIC SCAN ⏭ and ⏮ keys to go to the beginning of other channels. Use the DIRECTION ⇄ key to change the direction of the tape.

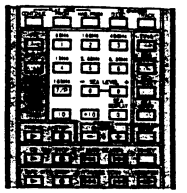
Listening to DAT



1. After pressing the TAPE2 key, press the DAT ▶ key to start the DAT deck. The TAPE2 MONITOR indicator will light up.
2. Press the STOP ■ key to stop the DAT deck. Use the AUTO SEARCH ⏭ and ⏮ keys to go to the beginning of other channels. Press the 10 KEY key to set numeric keys in the DAT tune number mode. The operation of these keys may vary according to the DAT deck you use, so be sure to refer to the DAT deck instructions.

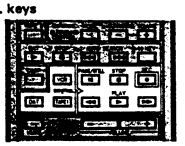
Note:
When the DAT deck is not in use, press the TAPE2 key again to turn it OFF.

Using the CD Autochanger



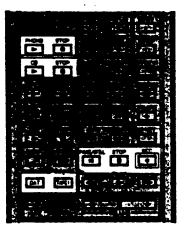
1. Select a play mode by pressing the PLAY MODE CONTINUE, PRGM, or MAG.PRGM key.
2. Press the DISC key to use numeric keys for entering disc numbers. Select a disc number with the 1 to 7/P keys.
3. Press the TRACK key to use numeric keys for entering track numbers. Select a track number with the 1 to 10, +10, and 0 keys. The numeric keys and the play modes vary in function from one type of CD auto-changer to another. Be sure to read the CD auto-changer's instructions.

Using the CONTROL keys



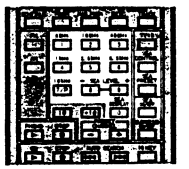
Use the following keys to operate a VCR, DAT deck, or cassette deck.
1. Press VCR, DAT or TAPE1 to select the equipment you wish to operate.
2. Use the VCR, DAT, or TAPE1 control keys to select the operation you wish. Refer to the section "㉔VCR/DAT/TAPE1 Control" for the REMOTE CONTROL UNIT, and to the instructions for each type of equipment before operating these keys.
   Note:
   When operating a VCR be sure to aim the remote control unit at the VCR.
   When you set a cassette deck or DAT deck to the recording mode, the DAT/TAPE REC indicator will light up for about 3 seconds.

Using Synchronized Recording



1. Press the DAT or TAPE1 key.
2. Press the REC ● and PAUSE/STILL ❚❚ keys simultaneously to place the tape deck in the REC/PAUSE mode.
3. Press the PHONO ▶ or CD ▶ key to start synchronized recording.
4. Press the STOP ■ key to stop synchronized recording.

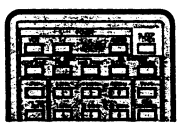
Using the S.E.A. graphic equalizer



1. Press the SEA ON/OFF key.
2. Select a preset pattern with the SEA PRESET key. The pattern will change in the following order each time the SEA PRESET key is pressed:
   [SEA-A] → [SEA-B] → [SEA-C] → [SEA-D] → [HEAVY] → [CLEAR] → [SOFT] → [MOVIE] → [VOCAL]
3. To correct a frequency, press the SEA CONTROL key, call the frequency with the 63 Hz 1 to 16 Hz 7/P keys, and correct the frequency with the SEA LEVEL − 8 and + 9 keys.
4. Press the SEA DISPLAY key and the current S.E.A. pattern will be displayed in ascending frequency order.

Note:
See "Using the S.E.A. graphic equalizer" in the Operation section.

Using the Sleep Timer (RM-SR501U)

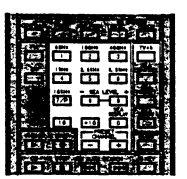


The sleep timer shuts off the RX-501BK (to enter the STANDBY mode) when the preset time intervals have elapsed.
Press the SLEEP TIMER key to set the timer setting mode. Each time the SLEEP TIMER key is pressed shubsequently, the timer can be set up to 80 minutes, in 10-minute multiples. The preset time and the elapsed time are shown on the display.

■Operating other Equipment

Aim signals at the equipment to be operated.

Selecting a TV Channel



1. Press the TV ch key. The numeric keys and the PRESET CHANNEL keys enter the TV channel mode.
2. Select a TV channel with the numeric keys or the PRESET CHANNEL keys (−, +). The numeric keys vary in operation from one type of TV to another. Read the instructions accompanying the particular TV.

Using the Surround Processor (optional)

1. The SURROUND mode is selected when the MODE key is pressed.
2. Adjust the surround processor volume with the SURROUND VOLUME (−, +) keys.

Note:
Connect the surround processor to the TAPE2 VIDEO SOUND terminals. For cabling and operating instructions, refer to the instructions for the surround processor.

TROUBLESHOOTING

What appears to be a malfunction is not always serious.
First be sure to check basic adjustments.

No sound and no illumination.
Is the AC plug connected properly?
No sound from the speakers.
Are the speaker cords connected?
Are the SPEAKERS buttons pressed?
Sound from one speaker only.
Are both speaker cords connected?
Is the BALANCE control set to one extreme or the other?
Continuous hiss or buzzing during FM reception.
The incoming signal may be to weak.
Use the correct antenna.
Occasional crackling noise during FM reception.
This may be automobile ignition noise. Move the antenna as far away from the road as possible.
Loud hum during record playing.
Is the turntable grounded?
Try to change the cord path.
Howling during record playing.
Is the turntable too close to a speaker?

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